with ethylene vinyl acetate copolymers. These blends (linear low density polyethylene and ethylene vinyl acetate copolymers) are also disclosed as being useful in conjunction with a barrier layer wherein ethylene vinyl alcohol copolymer is exemplified as a barrier resin. Newsome, however, discloses a linear low density polyethylene which is chemically and physically distinct from the linear low density polyethylene taught in Applicants' claims. In fact, the linear low density polyethylenes described and taught in Newsome are produced by a process yielding polyethylenes that are markedly different from the polyethylenes produced by single site catalyst technology. Newsome's linear low density polyethylenes are produced using a Ziegler-Natta catalyst, not a single site catalyst/metallocene catalyst system.

Applicants submit that a Ziegler-Natta catalyst is not the same as or even similar to a single site catalyst or a metallocene catalyst system. A Ziegler-Natta catalyst has multiple reaction sites that may produce a polymer having varied comonomer distribution and a wide molecular weight distribution, thereby producing a polymer having a broad range of molecular sizes and compositions. Accordingly, this may limit the overall performance and design capabilities of resins formed from these catalysts, as compared to single site catalysts. However, single site catalysts, such as, metallocene catalysts, are homogeneous catalysts that produce polymers having narrower molecular weight distributions, higher melt viscosities, and lower melt strengths than conventional Ziegler-Natta catalysts.

Ziegler-Natta catalysts typically use a transition metal halide complex, usually $TiCl_3$ or $TiCl_4$ along with an aluminum based co-catalyst, to produce polyolefins. Single site catalysts, such as metallocene catalysts, typically utilize a positively charged metal ion sandwiched between two negatively charged cyclopentadienyl anions. This configuration restricts the shape of the catalyst and typically will restrain it to react with a comonomer at only a single site.

Newsome discloses a film structure wherein at least one of said layers comprises a blended LLDPE and wherein said LLDPE is prepared using a non-metallocene catalyst.

From column 2, lines 40 to column 3, line 22, Newsome discloses various embodiments of the invention. In all the embodiments taught, at least one layer of the film structure comprises a blend of non-metallocene LLDPE and EVA. Therefore in Newsome, a blended layer of non-metallocene LLDPE and EVA is required.

In contrast, Applicants' invention does not require that at least one layer comprise a blend of non-metallocene LLDPE and EVA. Also applicants' film structure is irradiated. Newsome does not teach or suggest irradiation of his film structure.

Therefore given the following distinctions between Newsome and Applicants' invention: Newsome teaches non-metallocene LLDPE; applicants teach metallocene ethylene alpha-olefin copolymer; Newsome requires that at least one layer of the film structure comprise a blend of non-metallocene LLDPE and EVA; applicants' invention does not require a blend of non-metallocene LLDPE and EVA; Newsome does not disclose an irradiated film structure; applicants film structure is irradiated; it is not seen how a reading of Newsome can make obvious Applicants' invention.

Lai discloses a class of linear olefin polymers having certain characteristics and improvements over conventional LLDPE such as the LLDPE taught by Newsome.

Lai further discloses a process of manufacturing said linear olefin polymers. Lai also discloses that these polymers are useful in a variety of areas such as fibers, films and molded parts. There is, however, no teaching or suggestion by Lai as to how, in a specific type of film structure (i.e., barrier films, non-barrier film, blended, non-blended film) these polymers would react or even how they could be useful within the context of any specific film structures. In addition, there is certainly no teaching in Lai or Newsome to combine the teachings to make the claimed invention.

The design of specific film structures involves the consideration of many factors. These factors can be exemplified by, but not limited to: processability of the individual layers or the entire film structure, hot tack, heat sealability, coefficient of friction and others.

Also, the Examiner has stated that although Newsome fails to expressly teach irradiation of the film, it is conventional to cross-link films in order to improve the abrasion resistance of the film. While the Examiner has indicated a benefit of cross-linking a film, there are also negative aspects to cross-linking, such as an increase in the sealant temperature, or degradation of a particular polymer in a given layer. Therefore the cross-linking of any given film structure may have either a positive or negative effect on the overall film structure. Without experimentation, there is no way of predicting if cross-linking will have a desirable effect on the overall film structure. Therefore, given the unpredictability of the effects of

cross-linking on a given film structure, Applicants' respectfully submit that it is not obvious to cross-link a given film structure.

Lai neither teaches nor suggests how any of these factors would be addressed in the use of Lai's polymer within any specific film, structure, or class of film structure, let alone Applicants' specific film structure.

A disclosure of a monolayer film structure comprising solely the polymer of Lai does not address the factors discussed above. Because these factors change with the introduction of another resin (i.e., ethylene vinyl acetate copolymer) or with the introduction of a barrier layer (ethylene vinyl alcohol copolymer) in a film structure, there is no way of predicting whether the film structure having more than one component will be viable based on the knowledge derived from the Lai disclosure.

Applicants' invention, as defined by claims 22 to 44, is to a heat shrink film having a barrier layer with two opposing surfaces; wherein said barrier layer is disposed between said two surfaces, layers two and three and wherein said layers two and three comprise a polymer formed by the polymerization reaction with a single site catalyst and wherein said heat shrink film is irradiated.

It is Applicants' position that the design of a viable film structure involves the consideration of many factors as indicated earlier. Without experimentation, there would be no way of predicting how any of the various factors, either singularly or in combination, could be affected by a change in a component of the film structure (i.e., substituting one LLDPE for another LLDPE). Therefore, given the chemical and physical differences between the LLDPE in Newsome and the LLDPE of Applicants' film structure, the lack of teaching or suggestion in Lai as to how its polymer would affect the various considerations discussed earlier for specific film structures or even in a class of specific film structures (i.e., barrier film, blended films, etc.) and the unpredictability as to the effect of altering the components of a specific film structure, it is not seen how these references either singularly or in combination can make obvious Applicants' invention.

Claims 22-44 are rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over Newsome in view of Schut "Enter a New Generation of Polyolefins" Nov.

1991, Plastics Technology, or Van der Sanden "A New Family of Linear Ethylene Polymers With Enhanced Sealing Performance" February 1992.

The Newsome reference has been discussed above.

The Schut reference discloses polyethylenes made using different single-site catalysts. The Schut reference further discloses that these polyethylenes, depending on the process and single-site catalyst used can produce, polyethylenes having usefulness in many different applications (such as cast films, and wire/cable coatings). The Schut reference does not, however, teach or suggest any specific film structures or any generally film structures such as barrier versus non-barrier type film structures or how any specific resin which is produced using a single-site catalyst might behave in any given film structure.

The Van der Sanden reference discloses linear ethylene polymers having lower seal initiation temperatures, toughness and strength. Therefore, the reference only discloses properties of particular linear ethylene polymers without any teaching or suggestion as to how these particular properties would perform or be utilized in an environment of other resins. The fact that a particular resin has improved properties does not of itself mean that these properties could not be compromised by the presence of other resins, cross-linking or any other factors which are involved in the design of film structures.

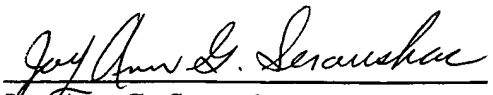
In considering obviousness, the critical inquiry is whether something in the art as a whole suggests the desirability, and thus the obviousness, of making a combination. *In re Newell*, 891 F.2d 899, 901-02, 13 USPQ 2d 1248, 1250 (Fed. Cir. 1989).

Applicants' respectfully submit that none of Newsome or Newsome in view of Lai, or Newsome in view of Schut, or Van der Sanden suggest the desirability of combination that would yield Applicants' invention. Also, no other reference has been submitted that would teach or suggest the combination of references relied upon the Examiner to arrive at Applicants' invention.

In view of the foregoing remarks, Applicants respectfully submit that all of the claims in the application are in allowable form, and that the application is now in condition for allowance.

Respectfully submitted,

Date: October 10, 2002

By: 

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